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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,936	01/04/2002	Klaus Joachim Zanker	1787-12300	8010

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EXAMINER

LARKIN, DANIEL SEAN

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/037,936

Applicant(s)
ZANKER

Examiner
Daniel Larkin

Art Unit
2856



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE (3) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7 Jul 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-26 and 32-45 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-19, 24-26, 32-34, 39-42, and 45 is/are rejected.
- 7) ☒ Claim(s) 20-23, 35-38, 43, and 44 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4 Jan 2002 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

Art Unit: 2856

DETAILED ACTION

Election/Restriction

1. Applicant's election of Group IV, claims 17-26 and 32-45, in Paper No. 4 is acknowledged. Because Applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Applicant stated that the claims did not present an “unreasonable” burden for the Examiner; however, the Applicant failed to provide an explanation of how Applicant came to this conclusion.
2. Acknowledgment is made of Applicant's desire to cancel claims 1-16, 27-31, and 46-55 in response to the restriction requirement of 2 June 2003.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

Reference numeral “2320”, as shown in Figure 5, does not appear within the written specification; and

Reference numerals “800”, “805”, “810”, “820”, “825”, “830”, “835”, “840”, and “850”, as shown in Figure 9, do not appear within the written specification.

Art Unit: 2856

4. The drawings are objected to because reference numeral “2320”, as shown in Figure 5, should be corrected to read -- 2230 --, as shown in Figure 4, since the bottom of the pipeline is the same in both figures.

5. Applicant is required to submit a proposed drawing correction or corrected drawings in response to this Office Action. Drawing changes must be made by presenting replacement figures which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments, or remarks, section of the amendment, and may be accompanied by a marked-up copy of one or more of the figures being amended, with annotations. Any replacement drawing sheet must be identified in the top margin as “Replacement Sheet” and include all of the figures appearing on the immediate prior version of the sheet, even though only one figure may be amended. Any marked-up (annotated) copy showing changes must be labeled “Annotated Sheet Showing Changes” and accompany the replacement sheet as an appendix to the amendment. The figure or figure number of the amended drawing(s) must not be labeled as “amended”. If the changes to the drawing figure(s) are not accepted by the Examiner, Applicant will be notified of any required corrective action in the next Office action. No further drawing submission will be required, unless Applicant is notified.

Specification

6. The abstract of the disclosure is objected to because the last sentence is inappropriate in that the sentence speaks of purported merits of the invention. The abstract should not refer to

Art Unit: 2856

purported merits or speculative applications of the invention and should not compare the invention with the prior art. Correction is required. See MPEP § 608.01(b).

7. The disclosure is objected to because of the following informalities:

Page 1, line 5: The phrase --, now U.S. Patent No. 6,386,018, -- should be inserted after the numeral "1999". The Applicant also needs to provide a full disclosure of the status of other parent and grandparent applications which this application relies upon for priority benefits, such as U.S. applications 09/146,085 and 08/613,478.

Page 1, line 5: The term "2-phase" should be corrected to read -- two-phase --.

Page 4, paragraph [0008], line 3: The numerical range "10-30" should be corrected to read -- ten to thirty --.

Page 7, paragraph [0031], line 12: The numeral "4" should be corrected to read -- four --.

Page 7, paragraph [0032], line 3: The term "2-phase" should be corrected to read -- two-phase --.

Page 7, paragraph [0032], line 6: The numeral "60" should be corrected to read -- sixty --.

Page 8, paragraph [0033], line 1: The phrase "First D path" should be corrected to read -- First path D --.

Page 8, paragraph [0033], line 2: The designation "6" should be corrected to read -- 4 -- since Figure 4 disclosed a situation of no stratified two-phase flow.

Art Unit: 2856

Page 10, prior to paragraph [0042]: The specification make reference to Figure 9 on page 6, line 25 and a Figure 9 is present in the drawing figures; however, the specification fails to provide a detailed explanation of Figure 9. Appropriate correction is required.

Claim Objections

8. Claims 17-26 and 32-45 are objected to because of the following informalities:

Re claim 17, claim line 11: The term -- off -- should be inserted after the term “reflecting”.

Re claim 17, claim line 16: The term -- off -- should be inserted after the term “reflecting”.

Re claim 17, claim line 19: The conjunction -- and -- should be inserted after the term “location”.

Re claim 32, claim line 11: The term -- off -- should be inserted after the term “reflecting”.

Re claim 32, claim line 16: The term -- off -- should be inserted after the term “reflecting”.

Re claim 32, claim line 19: The conjunction -- and -- should be inserted after the term “location”.

Re claim 42, claim line 1: The phrase “said step of computing *said degree* of stratified flow” lacks antecedent basis.

Art Unit: 2856

Re claim 45, claim line 1: The phrase "said degree" lacks antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claim 26 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification fails to provide an adequate written description of how a two-chord ultrasonic meter could create four ultrasonic signals as required by claim 17. Claim 17 requires that two signals from two different upstream locations and two signals from two different downstream locations be generated by four transducers. The specification has not provided a previous explanation of a two-chord ultrasonic meter providing four ultrasonic signals as described. The specification has only disclosed a two-chord ultrasonic meter having two transceivers, as shown in Figure 8.

Art Unit: 2856

Double Patenting

11. Applicant is advised that should claims 17-25 be found allowable, claims 32-40 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). The two sets of claims are identical.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 17-19, 24, 25, 32-34, 39-42, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,719,329 (Jepson et al.).

With respect to the limitations of claims 17, 32, and 42, the reference to Jepson et al. discloses an ultrasonic measuring system and method of operation comprising a plurality of upstream ultrasonic transducers (1-8) located on a pipeline (10) and a plurality of downstream transducers (1'-8') also located on the pipeline. The reference suggests that any number of

Art Unit: 2856

upstream and downstream transducers may be utilized to determine various fluid heights in addition to determining the presence of single phase fluids or multiphase fluids. Although not explicitly recited, the Examiner argues that one of ordinary skill in the art would have the requisite skill to enable the ultrasonic measuring system (30) to transmits a first ultrasonic signal through a first portion of the pipeline (10) from a first upstream location (1-8); receiving the first ultrasonic signal at a location (1'-8') downstream of the first upstream location (1-8); transmitting through the first portion a second ultrasonic signal from a first downstream location (1'-8'); receiving the second ultrasonic signal at a location upstream (1-8) of the first downstream location (1'-8'); transmitting through the first portion of the pipeline (10) a third ultrasonic signal from a second upstream location (1-8), the third signal reflecting off of a surface of stratified flow; receiving the third ultrasonic signal at a location downstream (1'-8') of the second upstream location (1-8); transmitting through the first portion a fourth ultrasonic signal from a second downstream location (1'-8'); the fourth signal reflecting off of a surface of stratified flow; receiving the fourth ultrasonic signal at a location upstream (1-8) of the second downstream location (1'-8'); and computing the amount/level of stratified flow based on the travel times of the first, second, third, and fourth ultrasonic signals, col. 7, lines 32-36.

With respect to the limitations of claims 18, 19, 33, and 34, the Examiner argues that the reference states that any number of single phase fluids, i.e. gas or liquid, may be present in the pipeline and that any orientation of the upstream (1-8) and downstream (1'-8') transducers may

Art Unit: 2856

be provided based on the particular needs of the ultrasonic detection system (30) in order to specifically measure the various fluid levels of the multiphase fluid pipeline.

With respect to the limitations of claims 24 and 39, the reference fails to explicitly recite that four transducers are present to receive each of the four signals; however, the reference discloses that any number of transducers may be used as well as any number of orientations.

With respect to the limitations of claims 25, 40, 41, and 45, the reference discloses that speed of sound can be utilized to measure height levels of single phase fluids or multiphase fluids. The difference in the speeds would inherently predict the height of the interface of two different fluid levels.

Allowable Subject Matter

14. The following is a statement of reasons for the indication of allowable subject matter:

Prior art was not relied upon to reject claims 20-23, 26, 35-38, 43, and 44 because the prior art fails to teach and/or make obvious the specific limitations of the above recited claims in combination with all of the remaining limitations of the base claims and any intervening claims.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Art Unit: 2856

The prior art discloses various devices ultrasonic flowmeters for determining the presence of varying fluids by travel time of ultrasonic signals through the fluids.

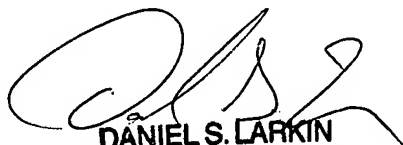
16. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Daniel Larkin whose telephone number is (703) 308-6724. The Examiner can normally be reached on Monday-Friday from 7:00 AM - 4:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Hezron E. Williams, can be reached on (703) 305-4705. The FAX telephone number for this Technology Center (TC 2800, unit 2856) is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Daniel Larkin

17 September 2003



DANIEL S. LARKIN
PRIMARY EXAMINER